

WHAT IS CLAIMED IS:

1. An information-transmission system which uses non-geosynchronous artificial satellites, including a
5 server-system and its clients apparatuses, for performing communications or broadcast, said system comprising:
means for controlling changeover of a non-geosynchronous artificial satellite being used, to another satellite to be next used;
- 10 wherein said server-system determines whether or not a satellite-changeover occurs during sending of an information packet to be sent toward a satellite being used, one of said non-geosynchronous artificial satellites, and if it is determined that a satellite-changeover occurs during
15 sending of said information packet to be sent, said server-system postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after completion of said satellite-changeover.
- 20 2. An information-transmission system according to claim 1, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said satellite-changeover, along with the last m items of information packets, which were sent before said
25 satellite-changeover, and are sent before said information

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packet to be sent; where m indicates an integer not less than 0.

3. An information-transmission system according to claim 5, wherein said server-system informs each satellite of at least one of; the start time of, the time necessary for, and the end time of said satellite-changeover.

4. An information-transmission system according to claim 10, 3, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion of said satellite-changeover.

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5. An information-transmission system according to claim 4, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with the 20 last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m indicates an integer not less than 0.

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6. An information-transmission system according to claim 4, wherein the start time of sending said information packet to be sent, after said completion of said satellite-changeover, is set to a random time.

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7. An information-transmission system according to claim 3, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client repeatedly sends said information packet to be sent, until said completion of said satellite-changeover.

8. An information-transmission system according to claim 1, wherein said server-system informs each client apparatus that said satellite-changeover is in operation.

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9. An information-transmission system according to claim 8, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device.

20 10. An information-transmission system according to claim 8, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device.

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11. An information-transmission system according to claim
1, wherein a data region in which at least one of; the start
time of, the time necessary for, and the end time of said
satellite-changeover is set, is provided in an information
5 packet which is sent from said server-system to each client
apparatus.

12. An information-transmission system which uses non-
geosynchronous artificial satellites, including a
10 server-system and its clients apparatuses, for performing
communications or broadcast, said system comprising:

means for controlling changeover of a non-
geosynchronous artificial satellite being used, to another
satellite to be next used;

15 wherein said server-system determines whether or not
a satellite-changeover occurs during sending of an
information packet to be sent toward a satellite being used,
one of said non-geosynchronous artificial satellites, and
if it is determined that a satellite-changeover occurs during
20 sending of said information packet to be sent, said
server-system repeatedly sends said information packet to
be sent, until completion of said satellite-changeover.

13. An information-transmission system according to claim
25 12, wherein said server-system informs each satellite of at

least one; of the start time of, the time necessary for, and the end time of said satellite-changeover.

14. An information-transmission system according to claim
5 12, wherein, if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client postpones sending of said information packet to be sent, and starts sending of said information packet to be sent, after said completion of said satellite-changeover.

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15. An information-transmission system according to claim 14, wherein each client apparatus sends said information packet to be sent, whose sending has been postponed, after said completion of said satellite-changeover, along with the
15 last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m indicates an integer not less than 0.

20 16. An information-transmission system according to claim 14, wherein the start time of sending said information packet to be sent, after said completion of said satellite-changeover, is set to a random time.

25 17. An information-transmission system according to claim

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13, wherein if it is determined that a satellite-changeover occurs during sending of an information packet to be sent, each client repeatedly sends said information packet to be sent, until said completion of said satellite-changeover.

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18. An information-transmission system according to claim 12, wherein said server-system informs each client apparatus that said server-system informs each client apparatus that said satellite-changeover is in operation.

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19. An information-transmission system according to claim 18, wherein each client apparatus displays that said satellite-changeover is in operation, on its display device.

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20. An information-transmission system according to claim 18, wherein said servant-system controls each client apparatus so as to display that said satellite-changeover is in operation, on its display device.

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21. An information-transmission system according to claim 12, wherein a data region in which at least one of; the start time of, the time necessary for, and the end time of said satellite-changeover is set, is provided in an information packet which is sent from said server-system to each client apparatus.

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22. An information-transmission system according to one of claim 1 and claim 12, wherein said means for controlling changeover of a non-geosynchronous artificial satellite
5 being used, to another satellite to be next used, is provided in said server-system.
23. An information-transmission system according to claim 22, wherein the time of each satellite-changeover is set to
10 said server-system in advance.
24. An information-transmission system according to claim 22, wherein the time of each satellite-changeover is determined based on the position data of said satellites,
15 and is set to said server-system.
25. An information-transmission system according to one of claim 1 and claim 12, wherein said means for controlling changeover of a non-geosynchronous artificial satellite
20 being used, to another satellite to be next used, is provided in at least one of said satellites.
26. An information-transmission system according to claim 25, wherein the time of each satellite-changeover is set to
25 at least one of said satellites.

27. An information-transmission system according to claim
25, wherein the time of each satellite-changeover is
determined based on the position data of said satellites,
5 and is set to at least one of said satellites.

28. An information-transmission system according to one
of claim 1 and claim 12, wherein one of; said satellite which
has been used, and said satellite which is ready to be used,
10 informs the server-system of the completion of said
satellite-changeover.

29. A method of sending an information packet which is going
to be sent during a period which includes the time of
15 satellite-changeover; used for an information-transmission
system which uses non-geosynchronous artificial satellites,
including a server-system and its clients apparatuses, for
performing communications or broadcast; said method
comprising the steps of:

20 taking in the time of satellite-changeover which is
going to be performed;

determining whether or not said satellite-changeover
will occur during sending of an information packet to be sent;

send said information packet if it is determined that
25 said satellite-changeover will not occur during sending of

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said information packet; and

postponing sending of said information packet until completion of said satellite-changeover if it is determined that said satellite-changeover will occur during sending of
5 said information packet.

30. A method according to claim 29, wherein said information packet to be sent, whose sending has been postponed, is sent after said completion of said
10 satellite-changeover, along with the last m items of information packets which were sent before said satellite-changeover, and are inserted and sent before said information packet to be sent; where m indicates an integer not less than 0.

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31. A method of sending an information packet which is going to be sent during a period which includes the time of satellite-changeover; used for an information-transmission system which uses non-geosynchronous artificial satellites,
20 including a server-system and its clients apparatuses, for performing communications or broadcast; said method comprising the steps of:

taking in the time of satellite-changeover which is going to be performed;

25 determining whether or not said satellite-changeover

will occur during sending of an information packet to be sent;
send said information packet if it is determined that
said satellite-changeover will not occur during sending of
said information packet; and

- 5 repeatedly sending of said information until
completion of said satellite-changeover if it is determined
that said satellite-changeover will occur during sending of
said information packet.